

IN THE CLAIMS:

1. (Currently Amended) A process for pressure welding, preferably friction welding or Magnetarc welding of workpieces (2, 3), ~~characterized in that~~ the process comprising the steps of:

measuring the actual length of one or both of said workpieces (2, 3) and a possible length deviation  $\Delta l$  from a set value ~~is measured and;~~

changing a ~~that the~~ set value of at least one process parameter, ~~especially the~~ from process parameters comprising: friction length, ~~[[the]]~~ friction duration, ~~[[the]]~~ arc time ~~or the~~ and forge force, ~~is changed~~ in case of length deviations~~[[,]]~~ ; and

determining a correction factor C, by which ~~[[the]]~~ a length deviation  $\Delta l$  is multiplied; ~~is determined for the change.~~

2. (Currently Amended) A process in accordance with claim 1, ~~characterized in that~~ wherein said correction factor C is obtained empirically in a test series.

3. (Currently Amended) A process in accordance with claim 1 ~~or 2~~, ~~characterized in that~~ that wherein said correction factor C is determined in an application-dependent manner.

4. (Currently Amended) A process in accordance with claim ~~[[1,]]~~ 2 ~~or 3~~, ~~characterized in that~~ wherein the test series are carried out in an application-specific manner on sample workpieces from ~~[[the]]~~ a series batch.

5. (Currently Amended) A process in accordance with ~~one of the above claims~~ claim 1, ~~characterized in that~~ wherein the welding quality is taken into account in the determination of said correction factor C.

6. (Currently Amended) A process in accordance with ~~one of the above claims~~ claim 1, ~~characterized in that~~ wherein upper and lower limits for length deviations  $\Delta l$  and for said corresponding correction factors C are determined and stored, and said correction factor C is determined during the welding operation for measured length deviations  $\Delta l$  in this range by interpolation.

7. (Currently Amended) A process in accordance with ~~one of the above claims~~ claim 1, ~~characterized in that~~ wherein a change in friction length,  $\Delta s$ , is calculated as a product of a correction factor  $C_s$  by the length deviations  $\Delta l$  in case of friction welding with friction length control.

8. (Currently Amended) A process in accordance with ~~one of the above claims~~ claim 1, ~~characterized in that~~ wherein a change in friction duration,  $\Delta t$ , is calculated as the product of a correction factor  $C_t$  by the length deviations  $\Delta l$  in case of friction welding with friction duration control.

9. (Currently Amended) A process in accordance with ~~one of the claims 1 through 5~~

claim 1, ~~characterized in that~~ wherein a change in the forge stroke,  $\Delta p$ , is calculated as the product of a correction factor C by the length deviations  $\Delta l$  in case of friction welding with short-time control.

10. (Currently Amended) A process in accordance with claim ~~[[10]]~~ 1, ~~characterized in that~~ wherein the forge force is changed.

11. (Currently Amended) A process in accordance with ~~one of the above claims~~ claim 1, ~~characterized in that~~ wherein the process parameter is changed in terms of its characteristic, with a parameter profile varying in time and/or space.

12. (Currently Amended) A process in accordance with ~~one of the above claims~~ claim 1, ~~characterized in that~~ wherein determined correction values C with reference data for said workpieces ~~(2, 3)~~ are stored in a data bank which can be connected to ~~[[said]]~~ a pressure welding machine ~~[[1]]~~ performing the welding.

13. (Currently Amended) A device for pressure welding, ~~preferably~~ friction welding or Magnetarc welding of ~~said~~ workpieces ~~(2, 3)~~, the device comprising:

~~with a feed unit (7);~~ ;

a control ~~(13)~~ ; and

a measuring means, ~~characterized in that said pressure welding device (1) has a~~

measuring means (12) for determining the actual length of one or both of said workpieces (2, 3) and a length deviation  $\Delta l$ , wherein a set value of at least one process parameter comprising, ~~especially the~~ friction length, [[the]] friction duration, [[the]] arc time or [[the]] forge force, ~~can be~~ is changed in said control (13) in case of a length deviation  $\Delta l$ , said control (13) having a computing unit (14) for setting and changing set values, taking a correction factor C for said at least one process parameter into account.

14. (Currently Amended) A device in accordance with claim 13, ~~characterized in that~~ wherein said control (13) is programmable, wherein said computing unit (14) is connected to at least one ~~said~~ memory (15) and has a program for determining, ~~especially or~~ or interpolating, the correction factor C from stored preset values.